PSD Class I Increment Consumption:

♦ **Particulate Matter (PM_{10})** ♦

The Division modeled all increment consuming sources of PM_{10} from Solvay Minerals, General Chemical, and FMC to determine the impacts at the Jim Bridger Wilderness Area, which is located approximately 141 kilometers (87.6 miles) northeast of Solvay Minerals. The receptor locations and elevations (meters) used in all Class I analyses are presented below:

CLASS I LOCATION	UTM (E)	UTM (N)	ELEV
Black Joe Lake	649685	4733290	3122
Deep Lake	649818	4731102	3201
Hobbs Lake	608370	4765547	3085
Ross Lake	608830	4804680	2948
Saddlebag Lake	664500	4720740	3432
Klondike Lake	611000	4787500	3418
Upper Titicomb Lake	610500	4775000	3230
Jim Bridger Boundary	650000	4717400	2454

Results of this analysis are presented below, and indicate that the modeled PM_{10} impacts from the proposed new sources at Solvay Minerals are below the allowable Class I increments. Additionally, the analysis shows that the cumulative impact from all increment consuming sources of PM_{10} from Solvay, General Chemical and FMC are also well below the Class I allowable increments.

Class I PM_{10} Increment Consumption Analysis for Jim Bridger Wilderness Area

Source Group	Averaging Period	Modeled Conc.	Class I Increment
Proposed PM_{10} IC Sources (Solvay)	Annual	0.0005 $\mu g/m^3$	4.0 $\mu g/m^3$
	HSH 24-hour	0.0047 $\mu g/m^3$	8.0 $\mu g/m^3$
All PM_{10} IC Sources	Annual	0.0028 $\mu g/m^3$	4.0 $\mu g/m^3$
	HSH 24-hour	0.0031 $\mu g/m^3$	8.0 $\mu g/m^3$

Air Quality Related Values:

Visibility: An evaluation of potential visibility impacts from all PM_{10} sources at Solvay Minerals was performed using the VISCREEN model, version 1.01. This analysis determines visibility impacts by comparing the plume perceptibility (ΔE) and plume contrast (C_p) to screening criteria values of $\Delta E = 2.0$ and $C_p = 0.05$.

The level 1 visibility screening indicated exceedances of the screening criterion for views inside the wilderness area for an observer positioned at the wilderness boundary. Therefore, a level 2 screening analysis was completed. The level 2 analysis is based on guidance in EPA's tutorial for the VISCREEN model, which recommends using five years of hourly meteorological data, and shifting the meteorological data stability classes to one level less stable (i.e, D → C) which accounts for the elevation change between the source and the Class I area. The Level

2 analysis showed compliance with the screening criteria for visual impacts inside the Class I area.

A visibility impairment analysis was also conducted to estimate the extinction coefficient (b_{ext}) resulting from the proposed increase in primary fine particulate emissions and condensible organic emissions. The relative change in visibility is a function of the ratio of the calculated source extinction coefficient and background extinction coefficient for the Class I Area. The methodology used to perform this evaluation was derived from Appendix B of the Interagency Workgroup on Air Quality Modeling (IWAQM) Phase 1 Report: Interim Recommendation for Modeling Long Range Transport and Impacts on Regional Visibility.

As discussed earlier, VOC's have been found to be emitted from trona processing operations, and it is suspected that a majority of these VOC's are driven off from organic contaminants in the trona ore and possibly from the oil shale that is mined around the edges of the trona ore deposits. Therefore, the Division has incorporated the contribution of VOC condensible organics into this analysis to account for the visibility impacts from the formation of secondary organic aerosols. The rationale to include the condensible organics measured through testing is that if organics condense in the sampling train, then these organics have the potential to condense and form aerosols in the atmosphere.

Testing of Calciner CA-3 (AQD #48) was conducted at Solvay Minerals during the week of May 22, 1997 using EPA Reference Methods 18, 25A, and 202. Method 25A was used to determine total hydrocarbons (THC). Method 18 was used to analyze the stack gas with a gas chromatograph to detect the amounts of methane and ethane, which were subtracted from the measured THC values to yield the total amount of C_3^+ compounds, or VOCs in the stack gas sample. Method 202 was used to determine the amount of back-half organic compounds that condense out in the chilled impingers.

Three (3) test runs were evaluated by the Division to determine a representative ratio of back-half organics to total VOCs (back ½:VOC). The results of the testing indicated various back ½:VOC ratios ranging from 12.9% to 19.6%. The tests do not show a linear relationship of emissions as a function of production rate, based on the variability in the constituents of the raw trona ore; therefore, a worse-case source specific back ½:VOC ratio of 20% was assumed in this analysis. This ratio was multiplied by the total VOC emission rate from the proposed increases in the A&B Calciners, C Calciner and the proposed "D" Calciner to estimate maximum impacts from the condensible organics. It should be noted that the Division's methodology is only applicable to Calciners used in the processing of trona ore, having emission rates measured by the Reference Methods described above.

The background standard visual range (SVR) used in this analysis was based on the 90th percentile best-case visibility, as provided by the USFS; this data has been collected at the Jim Bridger Wilderness Area boundary since 1988 as part of the Interagency Monitoring of Protected Visual Environments (IMPROVE) monitoring program. The seasonal background SVR data reflect the impacts on visibility from existing emission sources. Therefore, the potential degradation of the existing visibility would be the result of the proposed new sources at Solvay, since the contribution of existing Solvay sources has already been included in the background SVR data. The background SVR used for the Class I area was 262 km, which is the current value based on the 90th percentile best-case visibility during the winter months.

The maginitude of emissions used in the visibility analysis were as follows:

Primary Particulate-	Sources 76, 79-83, 85	20.38 lb/hr
Condensable Organics	A&B Calciners	29.49 lb/hr
Condensable Organics	C Calciner	14.74 lb/hr
Condensable Organics	D Calciner	106.70 lb/hr

The maximum 24-hour concentrations of PM_{10} and condensible organics were 0.01026 and 0.0401 $\mu g/m^3$, respectively, based on the ISCST3 model. Source extinction coefficients were calculated by multiplying the maximum model predicted 24-hour PM_{10} concentration by a scattering efficiency of 0.003 m^2/kg, and the maximum model predicted 24-hour average condensible organic concentration by a scattering efficiency of 0.004 m^2/kg. Using a 90th percentile SVR of 262 km for the Bridger Wilderness Area, the maximum visibility impairment was calculated to be 0.127d deciviews.

The significance of Solvay Mineral's contribution to visibility impairment is based on a comparison with the acceptable visibility change criterion of 0.50 deciviews, as designated by the USFS. Based on the results of this analysis, it is expected that the regional haze impacts due to the proposed project will not significantly impair visibility in the Bridger Wilderness Area. The calculations and parameters used in the Division's analysis are provided in Appendix A.

Acid Deposition:

Emissions of NO_x and SO_2 have the potential to convert to nitrate and sulfate compounds, which can be deposited into sensitive lakes and other water bodies, and increase the acidity of these water bodies. Solvay Minerals is proposing to increase emission rates of PM_{10}, CO and VOCs above the significant emission rates that trigger PSD review for these pollutants. Since PM_{10}, CO and VOCs are not linked to increases in acid deposition, the applicant is not required to perform an acid deposition analysis under PSD regulations. However, as a courtesy to the USFS, an acid deposition analysis was completed based on the existing allowable NO_x emissions. The lakes considered in this analysis, along with their location and baseline acid neutralizing capacity (ANC) are provided in Table V.

A screening level assessment of acid deposition impacts was performed using a technique that combines the methodology recommended by IWAQM, and calculations found in a USFS draft report developed by D.G. Fox in 1983 entitled, A Suggested Methodology for an Atmospheric Deposition Screening Technique. This technique quantitatively estimates the change in pH and in alkalinity on a sensitive water body (i.e., mountain lake) associated with predicted ambient concentrations of SO_2 and NO_2. Nitrogen deposition rates are calculated based on a technique presented in IWAQM, by which deposition rates can be estimated from annual average modeled concentrations. The equations associated with this method are presented below:

$$D_N = k \times (C\ V_d)$$

D_N = the dry deposition in g/m^2 - year of HNO_3

k = a constant to convert units and to account for the ration of molecular weights of HNO_3 to NO_2, multiplied by the number of seconds in a year and divided by 1×10^6 to convert from μg to g which equals 43.20

C = the maximum, annual, average concentration of NO_2 in $\mu g/m^3$

V_d = the deposition velocity, which is conservatively estimated as 0.05 m/sec

Table V. Inputs used in Acid Lake Deposition Analysis

Lake	UTM Coordinates (meters)		Elevation		ANC
	Easting	Northing	(feet)	(meters)	
Black Joe Lake	650,500	4,733,100	10,259	3,127	46
Deep Lake	648,600	4,731,400	10,502	3,201	40
Hobbs Lake	608,200	4,765,400	10,060	3,066	57
Ross Lake	609,000	4,805,300	9,675	2,949	51
Saddlebag Lake	644,400	4,720,800	11,262	3,433	28.4
Klondike Lake	611,000	4,787,500	11,215	3,418	20
Upper Titcomb Lake	640,500	4,717,500	10,597	3,230	34

The dry deposition rate is assumed to be approximately one-half of the total deposition rate, and thus, the value obtained from the equation is multiplied by two to provide an estimate of the total deposition rate. Once the total deposition rate of HNO_3 (D_N) is estimated, the change in pH (ΔpH) and percent change in alkalinity (ΔANC) from each of the sensitive lakes was calculated., based on background ANC information received from the USFS. The percent change in ANC was estimated by the following equation:

$$\Delta ANC = \{[(H_N/d)/1000]/A\} \times 100$$

H_N	=	D_N / (10 x R_N x 63), in eq/m^2
D_N	=	HNO_3 deposition in kg/ha-yr
R_N	=	0.22 (ratio of N to HNO_3 molecular weights)
A	=	lake baseline ANC, in eq/l
d	=	annual precipitation, in meters

The total potential loss of ANC, in μeq/L, was compared to the baseline ANC for each lake. The resultant percent change was then compared to the significance criteria of 10% for lakes with baseline ANC's between 25-100 μeq/L, and 1 μeq/L change for water bodies with a baseline ANC less than 25 μeq/L.

The change in pH from the nitrate deposition into a sensitive lake is estimated by the following equation:

$$\Delta pH = \log(A) - \log\{A - [(H_N/d)/1000]\}$$

A	=	lake baseline ANC, in eq/l
H_N	=	loss of ANC associated with the predicted ambient concentrations. D_N/(10 x R_N x 63), in eq/m^2
d	=	annual precipitation, in meters

The significance criterion for the change in pH is 10%. The change in pH for each lake was compared to this criterion to evaluate the significance of the change. The change in pH was calculated to be nearly imperceptible and was approximately two orders of magnitude below the significance criterion of 0.10. Therefore, the changes in ANC and pH from potential acid deposition impacts from Solvay Minerals are below the applicable significance criteria, and are expected to be minimal. The results of this analysis are presented in Table VI.

Table VI. Summary of Acid Deposition Results

Lake ID	Annual Modeled NOx Conc ($\mu g/m^3$)	Baseline ANC ($\mu eq/L$)	Δ ANC (%)	Δ pH (%)
Black Joe Lake	0.00118	46	0.655	0.0029
Deep Lake	0.00124	40	0.792	0.0035
Hobbs Lake	0.00086	57	0.386	0.0017
Ross Lake	0.00067	51	0.034	0.0015
Saddlebag Lake	0.00138	28	1.242	0.0054
Klondike Lake	0.00076	20	0.971	0.0042
Upper Titicomb Lake	0.00082	34	0.616	0.0027

Soils and Vegetation: The surrounding topography is characterized by uplifted fault blocks which form major ridges, and relatively flat-lying clay shale and siltstone deposits which form the intervening valleys. The ridges are mainly composed of limestones and quartz. Soils occurring at the ridge crests are typically shallow and have textures ranging from gravel to sandy loam. The soils have textural and drainage characteristics that limit the amount of water the soils can retain and make available for plant growth. additionally, there are no listed threatened or endangered species known to exist in this region. Therefore, the potential impacts on the surrounding soils and vegetation from the proposed expansion due to increased particulate deposition can be considered negligible.

Summary: The modeling analysis indicates that ambient concentrations of NO_x, PM_{10}, CO, and SO_2 are below the National Ambient Air Quality Standard (NAAQS), and correspondingly the NAAQS will be protected. The modeling analysis also indicates that all PSD Class I and Class II incremental impacts are below all applicable PSD standards. The Solvay facility adequately demonstrates compliance with Wyoming Ambient Air Quality Standards and is expected to have no significant impact on the existing ambient air quality.

PROPOSED PERMIT CONDITIONS:

1. Representatives of the Air Quality Division shall be permitted to enter and inspect any properties associated with this permit for the purpose of investigating actual or potential sources of air pollution, and for determining compliance with air quality regulations, standards, permits and orders.

2. All commitments and descriptions set forth in the application and subsequent revisions for this permit, unless superseded by a specific conditions of this permit, are incorporated herein by this reference and are enforceable as conditions of this permit.

3. For a major source, as defined by Section 30 (c)(i) of the WAQS&R, an application for an operating permit is required within 12 months of commencing operations.

4. Written notification of the anticipated date of initial startup, in accordance with Section 21(i) of the WAQS&R, is required 60 days prior to such date. Notification of the actual date of initial start-up is required 15 days after start-up.

5. Required performance tests will be conducted, in accordance with Section 21(j) of the WAQS&R, within 30 days of achieving maximum design rate but not later than 90 days after initial start-up, and a written report of the results be submitted. The operator shall provide 15 days prior notice of the test date. If maximum design production rate is not achieved within 90 days of start-up, the Administrator may require testing be done at the rate achieved and again when maximum rate is achieved.

6. The date of commencement of construction shall be reported to the Administrator within 30 days of commencement. The construction or modification must commence within 24 months of the date of permit issuance, in accordance with Section 21(h) of the WAQSR, or the permit becomes invalid. The Administrator may extend the period based on a satisfactory justification of the requested extension. If the construction is discontinued for a period of 24 months or more then the permit will also become invalid.

7. Solvay will operate the Green River plant trona calciner and dryers at production rates which do not exceed the rates listed in the following table.

Unit	Calciner Kilns: Trona Ore Feed Rate (TPH)	Calciner Kilns: Calcined Ore Production Rate (TPH)	Trona Ore Feed Rate Capacity @ Full Load (MMTPY)	Design Annual Trona Ore Feed Rate (MMTPY)
#17 "A" Calciner	200	147	1.752	1.577
#17 "B" Calciner	200	147	1.752	1.577
#48 "C" Calciner	200	147	1.752	1.577
#80 "D" Calciner	275	202	2.409	2.048
Totals	875	643	7.665	6.779

Unit	Dryer Kiln: Wet Crystal Feed Rate (TPH)	Dryer Kiln: Soda Ash Production Rate (TPH)	Soda Ash Production Capacity @ Full Load (MMTPY)	Design Annual Soda Ash Production (MMTPY)
#15 DR-1 Dryer	93	76	0.666	0.594
#15 DR-2 Dryer	93	76	0.666	0.594
#28 DR-4 Dryer	40	32	0.280	0.252
#51 DR-5 Dryer	150	122	1.069	0.962
#82 DR-6 Dryer	198	161	1.410	1.199
Totals	563	458	4.091	3.601

8. Maximum soda ash production at the Solvay soda ash plant will be limited to 3.60 million tons per year, from no more than 6.78 million tons per year of trona ore throughput.

9. The allowable particulate, sulfur dioxide and nitrogen oxide mass emission rates for Solvay Big Island Plant emission sources shall be limited to rates shown in Table I of this analysis.

10. Solvay will meet all applicable provisions of New Source Performance Standards Subpart OOO as they apply to the newly constructed equipment in the "D" process train. Thus baghouses AQD #'s 76, 79, 81 and 83 must maintain particulate emissions within 0.02 grains per dry standard cubic foot (gr/dscf) of baghouse exhaust and must hold visible emissions to within seven (7%) opacity.

11. Solvay will meet all applicable provisions of New Source Performance Standards Subpart Dc requirements as they apply to the newly constructed AQD #85 boiler. Under that section the owner/operator of a new boiler is required to submit notification of the dates of construction, anticipated and actual start-up, with confirmation of the design heat input capacity and fuels to be combusted.

12. The allowable opacity limits for AQD #80 calciner and AQD #82 dryer will be set based on correlation of the units' COM measured opacity during their initial performance testing and first 6 months of operating opacity data. Solvay shall submit a summary of opacity readings during the first 6 months of operation summarizing the monitored opacity readings in increments of 5 percent up to 20

percent. Based on the initial performance testing and first 6 months of operating opacity data, the Division will review and establish an allowable opacity limitation, not to exceed 20 percent. The allowable opacity limitation will be incorporated into the Section 30 operating permit for the expansion project. Until such time a reduced opacity limitation is established, the allowable opacity limit shall be set at 20 percent.

13. Solvay will install, calibrate, operate, maintain and report measured emissions from a continuous in-stack monitoring system on the source AQD #80 calciner stack for continuously measuring opacity emissions. The monitoring system shall be installed, calibrated and operated in compliance with the requirements set forth in Section 22(j) of the Wyoming Air Quality Standards & Regulations. Record keeping and excess emissions reporting shall comply with the requirements of Section 22(g) of the Wyoming Air Quality Standards & Regulations. Periods of excess emissions will be defined as any six minute average when the average opacity exceeds the figure defined by condition #12.

14. Solvay will install, calibrate, operate, maintain and report measured emissions from a continuous in-stack monitoring system on the source AQD #82 dryer stack for continuously measuring opacity emissions. The monitoring system shall be installed, calibrated and operated in compliance with the requirements set forth in Section 22(j) of the Wyoming Air Quality Standards & Regulations. Record keeping and excess emissions reporting shall comply with the requirements of Section 22(g) of the Wyoming Air Quality Standards & Regulations. Periods of excess emissions will be defined as any six minute average when the average opacity exceeds the figure defined by condition #12.

15. Solvay will submit the plans and specifications of the control equipment planned for installation under this permit to the Division for final approval, prior to installation.

    For electrostatic precipitators the information required includes the manufacturer and model number for the unit, the fan design exhaust rate (acfm & dscfm), the number of gas paths, the number of precipitator chambers on each path, the number of plates and wires per chamber, the total plate area per chamber, the number of transformer-rectifier energized sections per chamber, the design transport velocity inside each precipitator chamber, the design gas treatment time for the precipitator (seconds), the design electronics parameters (spark rates, and primary/secondary amperages and voltages), the design rapping duration and cycle time, and a three dimension view design drawing of the precipitator.

    For baghouses the information required includes the baghouse manufacturer and model number for the unit, the bag filter area, the fan design exhaust rate (acfm & dscfm), design air/cloth ratio, and a design drawing of the system showing duct layout, system hoods and pickup points, duct sizes and velocity/volume in each leg of the system.

16. As a permit condition, the Division will require that Solvay meet the design specifications and comply with the emission limits for equipment installed under the "D" train project, as considered in this permit analysis. Any alterations to these specifications will be reviewed for acceptability by the Division. If significant changes are made to control equipment or exhaust system parameters, revision to the existing permit emission limits may be made, or a new permit application may be required.

17. All compliance stack testing will be accomplished according to standard Reference Method testing, or other methodology specifically approved by the Administrator of the Air Quality Division. Regarding particulate emission tests, the Division will require utilization of Reference Method 5 sampling trains, with the back half impinger catch analyzed by the protocol defined by Reference Method 202. To determine compliance for any particular stack, the Division will compare the sum of the Reference Method 5 front half particulate catch and the <u>inorganic</u> (mineral) portion of the Reference Method 202 back half of these Method 5/202 tests, against the particulate emission standards set into this permit.

TABLE I
Solvay Trona Plant Pollutant Emission Rates (pph)
(Page 1/3)

Source Number	Equipment Description	Pollutants			
		PM_{10}	SO_2	NO_x	VOC
Current Plant Emission Sources					
2a	Ore Crusher Building Baghouse #1	1.60	n.a.	n.a.	0.00
2b	Ore Reclaim Baghouse #1	0.20	n.a.	n.a.	0.00
6a	Product Silo Top Baghouse #1	0.30	n.a.	n.a.	0.00
6b	Product Silo Reclaim Baghouse #1	1.40	n.a.	n.a.	0.00
7	Product Loadout Baghouse #1	1.20	n.a.	n.a.	0.00
10	Coal Crushing & Storage Baghouse	0.60	n.a.	n.a.	0.00
11	Coal Transfer Station Baghouse	0.60	n.a.	n.a.	0.00
14	Boiler Coal Bunker Baghouse	1.00	n.a.	n.a.	0.00
15	DR-1 & 2 Product Dryers Scrubber	6.80	n.a.	1.20	0.06
16	Dryer Area Housekeeping Baghouse	0.90	n.a.	n.a.	0.00
17	"A" & "B" Gas Fired Ore Calciners	22.30	0.00	20.00	628.56
18	#1 Coal Boiler Scrubber & Prcptr	17.00	70.00	245.00	0.50
19	#2 Coal Boiler Scrubber & Prcptr	17.00	70.00	245.00	0.50
20	Gas & Diesel Storage Tanks	n.a.	n.a.	n.a.	0.02
24	Boiler Flyash Silo Vent Baghouse	0.30	n.a.	n.a.	0.00
25	Alkaten Crushing Area Baghouse	1.00	n.a.	n.a.	0.00
26	DR-3 Alkaten Product Dryer Baghouse	1.10	n.a.	n.a.	0.00
27	Alkaten Product Bagging Baghouse	0.50	n.a.	n.a.	0.00
28	DR-4 Fld Bed Product Dryer Scrubber	2.90	n.a.	n.a.	0.00
30	Caustic #1 Lime Bin Baghouse	0.20	n.a.	n.a.	0.00
31	Caustic #2 Lime Bin Baghouse	0.20	n.a.	n.a.	0.00
32	Caustic Evaporator Brmtrc Condenser	0.00	n.a.	n.a.	0.00
33	Sulfite Sulfur Burner Scrubber	n.a.	0.40	1.50	0.00
34	Sulfite Crystallizer	0.00	n.a.	n.a.	0.00
35	Sulfite Product Dryer Scrubber	1.40	n.a.	n.a.	0.00
36	Sulfite #1 Product Bin Baghouse	0.10	n.a.	n.a.	0.00
37	Sulfite #2 Product Bin Baghouse	0.10	n.a.	n.a.	0.00
38	Sulfite #3 Product Bin Baghouse	0.10	n.a.	n.a.	0.00
39	Sulfite #4 Product Bin Baghouse	0.10	n.a.	n.a.	0.00
40	Sulfite Product Bagging Baghouse	0.30	n.a.	n.a.	0.00
41	Sulfite Product Loadout Baghouse	0.40	n.a.	n.a.	0.00
42	Sulfite HCl Tank Vent	n.a.	n.a.	n.a.	0.00
43	Sulfite Sulfur Tank Storage Vent	n.a.	n.a.	n.a.	0.00
44	Caustic Lime Delivery Baghouse	0.90	n.a.	n.a.	0.00
45	Alkaten Transloading Baghouse	0.20	n.a.	n.a.	0.00
46	#2 Ore Transfer Baghouse	1.20	n.a.	n.a.	0.00
47	"C" Train Ore Crusher Baghouse	5.10	n.a.	n.a.	0.00
48	"C" Ore Calciner Precipitator	9.30	n.a.	10.00	314.28
50	"C" Train Dryer Area Baghouse	2.10	n.a.	n.a.	0.00
51	DR-5 Product Dryer Precipitator	4.80	n.a.	18.00	0.28
52	Product Silo Top Baghouse #2	0.50	n.a.	n.a.	0.00
53	Product Silo Reclaim Baghouse #2	1.10	n.a.	n.a.	0.00
54	T-200 Product Storage Baghouse	0.19	n.a.	n.a.	0.00
55	Recycle/Reclaim Baghouse	0.40	n.a.	n.a.	0.00
62	Activated Carbon Bin Vent	0.13	n.a.	n.a.	0.00
63	Perlite Bin Vent Baghouse	0.17	n.a.	n.a.	0.00
64	Sulfite Blending #2 Baghouse	0.15	n.a.	n.a.	0.00

Source Number	Equipment Description		Pollutants PM_{10}	SO_2	NO_x	VOC
	TABLE I Solvay Trona Plant Pollutant Emission Rates (pph) (Page 2/3)					
65	Sulfite Blending #1 Baghouse		0.06	n.a.	n.a.	0.00
66	Carbon/Perlite Additive Scrubber		0.58	n.a.	n.a.	0.00
67	Bottom Ash Baghouse		0.47	n.a.	n.a.	0.00
68	Trona Silo/Bagging Machine Baghouse		0.41	n.a.	n.a.	0.00
69	Soda Ash Silo/Bagging Machine Baghouse		0.41	n.a.	n.a.	0.00
70	Sulfite Silo/Bagging Machine Baghouse		0.41	n.a.	n.a.	0.00
71	MBS Silo/Bagging Machine Baghouse		0.41	n.a.	n.a.	0.00
72	MBS Soda Ash Feed Bin Vent Filter		0.14	n.a.	n.a.	0.00
73	MBS Product Dryer		1.20	0.77	0.15	0.00
MV	Mine Vent		n.a.	n.a.	n.a.	115.00
	Subtotal, Current Plant Emissions (pph)		109.93	141.17	540.85	1059.20
	Annual Emission Totals (TPY)		481.5	618.3	2368.9	4639.3
	Current Proposed Plant Modifications					
2a	Ore Crusher Building Baghouse #1	(RMV)	-1.60	n.a.	n.a.	0.00
2a	Ore Crusher Building Baghouse #1	(ADD)	1.60 β	n.a.	n.a.	0.00
2b	Ore Reclaim Baghouse #1	(RMV)	-0.20	n.a.	n.a.	0.00
6b	Product Silo Reclaim Baghouse #1	(RMV)	-1.40	n.a.	n.a.	0.00
6b	Product Silo Reclaim Baghouse #1	(ADD)	0.51	n.a.	n.a.	0.00
10	Coal Crushing & Storage Baghouse	(RMV)	-0.60	n.a.	n.a.	0.00
10	Coal Crushing & Storage Baghouse	(ADD)	0.26 α	n.a.	n.a.	0.00
11	Coal Transfer Station Baghouse	(RMV)	-0.60	n.a.	n.a.	0.00
11	Coal Transfer Station Baghouse	(ADD)	0.21 α	n.a.	n.a.	0.00
14	Boiler Coal Bunker Baghouse	(RMV)	-1.00	n.a.	n.a.	0.00
14	Boiler Coal Bunker Baghouse	(ADD)	0.37 α	n.a.	n.a.	0.00
15	DR-1 & 2 Product Dryers Scrubber	(RMV)	-6.80	n.a.	-1.20	-0.06
15	DR-1 & 2 Product Dryers Scrubber	(ADD)	4.34	n.a.	1.20	0.06
17	"A" & "B" Gas Fired Ore Calciners	(RMV)	-22.30	0.00	-20.00	-628.56
17	"A" & "B" Gas Fired Ore Calciners	(ADD)	22.30	0.00	30.00	776.00
18	#1 Coal Boiler Scrubber & Prcptr	(RMV)	-17.00	-70.00	-245.00	-0.50
18	#1 Coal Boiler Scrubber & Prcptr	(ADD)	5.00	70.00	245.00	0.50
19	#2 Coal Boiler Scrubber & Prcptr	(RMV)	-17.00	-70.00	-245.00	-0.50
19	#2 Coal Boiler Scrubber & Prcptr	(ADD)	5.00	70.00	245.00	0.50
26	DR-3 Alkaten Product Dryer Baghouse	(RMV)	-1.10	n.a.	n.a.	0.00
26	DR-3 Alkaten Product Dryer Baghouse	(ADD)	0.55	n.a.	0.25	0.01
41	Sulfite Product Loadout Baghouse	(RMV)	-0.40	n.a.	n.a.	0.00
41	Sulfite Product Loadout Baghouse	(ADD)	0.19	n.a.	n.a.	0.00
44	Caustic Lime Delivery Baghouse	(RMV)	-0.90	n.a.	n.a.	0.00
44	Caustic Lime Delivery Baghouse	(ADD)	0.18 α	n.a.	n.a.	0.00
46	#2 Ore Transfer Baghouse	(RMV)	-1.20	n.a.	n.a.	0.00
46	#2 Ore Transfer Baghouse	(ADD)	0.71	n.a.	n.a.	0.00
47	"C" Train Ore Crusher Baghouse	(RMV)	-5.10	n.a.	n.a.	0.00
48	"C" Ore Calciner Precipitator	(RMV)	-9.30	n.a.	-10.00	-314.28
48	"C" Ore Calciner Precipitator	(ADD)	9.30	n.a.	15.00	388.00
50	"C" Train Dryer Area Baghouse	(RMV)	-2.10	n.a.	n.a.	0.00
50	"C" Train Dryer Area Baghouse	(ADD)	0.70	n.a.	n.a.	0.00
51	DR-5 Product Dryer Precipitator	(RMV)	-4.80	n.a.	18.00	[illegible]
51	DR-5 Product Dryer Precipitator	(ADD)	2.40	n.a.	18.00	0.28

TABLE I

Solvay Trona Plant Pollutant Emission Rates (pph)

(Page 3/3)

Source Number	Equipment Description		Pollutants PM_{10}	SO_2	NO_x	VOC
53	Product Silo Reclaim Baghouse #2	(RMV)	-1.10	n.a.	n.a.	0.00
53	Product Silo Reclaim Baghouse #2	(ADD)	0.45	n.a.	n.a.	0.00
64	Sulfite Blending #2 Baghouse	(RMV)	-0.15	n.a.	n.a.	0.00
64	Sulfite Blending #2 Baghouse	(ADD)	0.08	n.a.	n.a.	0.00
65	Sulfite Blending #1 Baghouse	(RMV)	-0.06	n.a.	n.a.	0.00
65	Sulfite Blending #1 Baghouse	(ADD)	0.03	n.a.	n.a.	0.00
73	MBS Product Dryer	(RMV)	-1.20	-0.77	-0.15	0.00
73	MBS Product Dryer	(ADD)	0.90	0.77	0.15	0.00
	Subtotal, Current Proposed Plant Modifications (pph)		-40.83	0.00	15.25	221.16
	Annual Emission Totals (TPY)		-181.1 α	0.0	66.8	968.7
	Bagging Facility/MBS Plant Modifications					
40	Sulfite Product Bagging Baghouse	(RMV)	-0.30	n.a.	n.a.	0.00
68	Trona Silo/Bagging Machine Baghouse	(RMV)	-0.41	n.a.	n.a.	0.00
68	Trona Silo/Bagging Machine Baghouse	(ADD)	0.36	n.a.	n.a.	0.00
69	Soda Ash Silo/Bagging Machine Baghouse	(RMV)	-0.41	n.a.	n.a.	0.00
70	Sulfite Silo/Bagging Machine Baghouse	(RMV)	-0.41	n.a.	n.a.	0.00
70	Sulfite Silo/Bagging Machine Baghouse	(ADD)	0.27	n.a.	n.a.	0.00
71	MBS Silo/Bagging Machine Baghouse	(RMV)	-0.41	n.a.	n.a.	0.00
71	MBS Silo/Bagging Machine Baghouse	(ADD)	0.27	n.a.	n.a.	0.00
72	MBS Soda Ash Feed Bin Vent Filter	(RMV)	-0.14	n.a.	n.a.	0.00
72	MBS Soda Ash Feed Bin Vent Filter	(ADD)	0.07	n.a.	n.a.	0.00
	Subtotal, Bagging Facility/MBS Plant Modifications (pph)		-1.11	0.00	0.00	0.00
	Annual Emission Totals (TPY)		-4.9	0.0	0.0	0.0
	"D" Process Line Expansion					
76	"D" Train Primary Ore Screening Baghouse		2.45	n.a.	n.a.	0.00
79	Ore Transfer Point Baghouse		0.84	n.a.	n.a.	0.00
80	"D" Ore Calciner Precipitator		12.25	n.a.	20.00	533.50
81	"D" Train Dryer Area Baghouse		0.50	n.a.	n.a.	0.00
82	DR-6 Product Dryer Precipitator		3.45	n.a.	30.00	0.27
83	Product Silo Top Baghouse #3		0.41	n.a.	n.a.	0.00
85	#3 Gas Boiler		0.48	n.a.	3.80	0.27
	Subtotal, "D" Process Line Expansion (pph)		20.38	0.00	53.80	534.04
	Annual Emission Totals (TPY)		89.3	0.0	235.6	2339.1
	GRAND TOTAL SOLVAY PLANT REVISED EMISSIONS					
	Grand Total, Solvay Plant Emissions (pph)		88.37	141.17	609.90	1814.40
	Annual Emission Totals (TPY)		384.8 α	618.3	2671.4	7947.1

****** Footnotes ******

α → Sources will operate on a schedule of 12 hours/day, therefore annual emissions are based on one half of a year, or 4380 hours operation.

β → Source #2a industrial ventillation system will be modified to include dust collection from pick up points from the existing source #47 cusher baghouse, while #47 is eliminated from the plant inventory. The #2a fan will not be changed, however, and that fan's exhaust air volume will simply be re-apportioned throughout the modified collection ductwork. With the same projected exhaust volume, the existing source #2a particulate emission rate will remain at 1.60 pph.

Table II
Solvay Minerals
VOC / HAP's INVENTORY (lb/hr by source)
Page 1 of 2

Process Source Identification Numbers

		Calciners			Soda Ash/Alkaten Dryers					Sulfite Dryers		Mine Vent & Miscellaneous Sources					
		AQD #17 Calciner	AQD #48 Calciner	AQD #80 Calciner	AQD #15 SA Dryer	AQD #26 Tr Dryer	AQD #28 FB Dryer	AQD #51 SA Dryer	AQD #82 SA Dryer	AQD #35 Sf Dryer	AQD #73 Ms Dryer	Mine Vent	AQD #20 Gas Tank	AQD #32 Cs Evap	AQD #33 Sulfr Bmr	AQD #42 HCl Tank	AQD #43 Slfr Tank
Total Volatile Organic Compounds * ==>		776.00	388.00	533.50	0.08	0.01	Insignif	0.28	0.27	Insignif	Insignif	115.00	0.02	Insignif	Insignif	Insignif	Insignif
HAP's (Method 0030)	CAS Number																
Benzene	000071-43-2	25.0600	10.8100	17.2300	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	0.2900	Insignif	Insignif	Insignif	Insignif	Insignif
1,3 Butadiene	000106-99-0	51.8900	30.9400	35.6800	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif
Ethylbenzene	000100-41-4	6.1500	1.7300	4.2300	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif
2-Butanone	000078-93-3	19.6200	2.6600	13.4900	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	0.7700	Insignif	Insignif	Insignif	Insignif	Insignif
Hexane	000110-54-3	14.7100	6.9000	10.1100	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	0.4300	Insignif	Insignif	Insignif	Insignif	Insignif
Styrene	000100-42-5	5.9600	4.1800	4.1000	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	0.0800	Insignif	Insignif	Insignif	Insignif	Insignif
Toluene	000108-88-3	13.2900	3.4000	9.1400	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	2.5100	Insignif	Insignif	Insignif	Insignif	Insignif
Xylene	001330-20-7	22.6000	7.7800	15.5400	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	8.6700	Insignif	Insignif	Insignif	Insignif	Insignif
** 1,1,1 Trichloroethane	00071-55-6	11.4300	4.0300	7.8600	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif
** Acrilonitrile	000107-13-1	5.4500	1.5200	3.7500	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif
** Methylene Chloride	000075-09-2	1.2600	1.8900	0.8700	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif
** Trichloroethylene	000079-01-6	38.2800	3.7900	26.3200	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif
Subtotal VOC HAP's ==>		215.7000	79.4300	148.3200	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	12.7500	0.0000	0.0000	0.0000	0.0000	0.0000
HAP's (Method 0010)	CAS Number																
Acetophenone	000098-86-2	0.0160	0.0080	0.1100	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif
Biphenyl	000092-52-4	0.0228	0.0114	0.0157	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif
bis(2-Ethylhexyl)phthalate	000117-81-7	0.0015	0.0008	0.0011	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif
2-Chloroacetophenone	000532-27-4	0.0014	0.0007	0.0010	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif
m-, o-, p- Cresols	000108-39-4	0.0093	0.0047	0.0064	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif
Cumene	000098-82-8	0.0018	0.0009	0.0012	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif
Dibenzofuran	000132-64-9	0.0191	0.0095	0.0131	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif
Di-n-butylphthalate	000084-74-2	0.0115	0.0058	0.0079	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif
N,N-dimethylaniline	000121-69-7	0.0076	0.0038	0.0052	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif
Naphthalene	000091-20-3	0.1477	0.0739	0.1016	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif
Phenol	000108-95-2	0.0907	0.0453	0.0623	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif
Subtotal SVOC HAP's ==>		0.3294	0.1648	0.3255	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
HAP's (Method 0011)	CAS Number																
Formaldehyde	000050-00-0	0.3800	0.1200	0.2600	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif
Acetaldehyde	000075-07-0	1.1900	0.2400	0.8200	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif
Propionaldehyde	000123-38-6	0.4200	0.0700	0.2900	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif
Acrolein	000107-02-8	1.7400	0.3100	1.2000	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif
Subtotal Aldehyde & Ketone HAP's ==>		3.7300	0.7400	2.5700	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total Title III HAP's ==>		219.7594	80.3348	151.2155	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	12.7500	0.0000	0.0000	0.0000	0.0000	0.0000

		Boilers			Housekeeping Baghouse Indentification Numbers												
		AQD #18 Boiler	AQD #19 Boiler	AQD #85 Boiler	AQD #2a Dst Clctr	AQD #6a Dst Clctr	AQD #6b Dst Clctr	AQD #7 Dst Clctr	AQD #10 Dst Clctr	AQD #11 Dst Clctr	AQD #14 Dst Clctr	AQD #16 Dst Clctr	AQD #24 Dst Clctr	AQD #25 Dst Clctr	AQD #27 Dst Clctr	AQD #30 Dst Clctr	AQD #31 Dst Clctr
Total Volatile Organic Compounds * ==>		0.50	0.50	0.27	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif
HAP's (Method 0030)	CAS Number																
Benzene	000071-43-2	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif
1,3 Butadiene	000106-99-0	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif
Ethylbenzene	000100-41-4	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif
2-Butanone	000078-93-3	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif
Hexane	000110-54-3	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif
Styrene	000100-42-5	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif
Toluene	000108-88-3	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif
Xylene	001330-20-7	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif
** 1,1,1 Trichloroethane	00071-55-6	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif
** Acrilonitrile	000107-13-1	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif
** Methylene Chloride	000075-09-2	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif
** Trichloroethylene	000079-01-6	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif
Subtotal VOC HAP's ==>		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
HAP's (Method 0010)	CAS Number																
Acetophenone	000098-86-2	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif
Biphenyl	000092-52-4	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif
bis(2-Ethylhexyl)phthalate	000117-81-7	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif
2-Chloroacetophenone	000532-27-4	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif
m-, o-, p- Cresols	000108-39-4	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif
Cumene	000098-82-8	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif
Dibenzofuran	000132-64-9	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif
Di-n-butylphthalate	000084-74-2	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif
N,N-dimethylaniline	000121-69-7	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif
Naphthalene	000091-20-3	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif
Phenol	000108-95-2	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif
Subtotal SVOC HAP's ==>		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
HAP's (Method 0011)	CAS Number																
Formaldehyde	000050-00-0	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif
Acetaldehyde	000075-07-0	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif
Propionaldehyde	000123-38-6	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif
Acrolein	000107-02-8	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif
Subtotal Aldehyde & Ketone HAP's ==>		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total Title III HAP's ==>		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

* Non methane/non ethane hydrocarbons - Methods 18 & 25A
** These four compounds may have been misidentified during the GC stack tests. The more accurate GC/MS did not identify these compounds.
Insignif = emission rate considered insignificant per testing or process knowledge

Table II

SOLVAY MINERALS

VOC / HAP's INVENTORY (lb/hr by source)

ouseKeeping Baghouse Indentification Numbers

AQD #36 Dst Clctr	AQD #37 Dst Clctr	AQD #38 Dst Clctr	AQD #39 Dst Clctr	AQD #40 Dst Clctr	AQD #41 Dst Clctr	AQD #44 Dst Clctr	AQD #45 Dst Clctr	AQD #46 Dst Clctr	AQD #50 Dst Clctr	AQD #52 Dst Clctr	AQD #53 Dst Clctr	AQD #54 Dst Clctr	AQD #55 Dst Clctr	AQD #62 Dst Clctr	AQD #63 Dst Clctr	AQD #64 Dst Clctr	AQD #65 Dst Clctr	AQD #66 Dst Clctr	AQD #67 Dst Clctr	AQD #68 Dst Clctr	AQD #70 Dst Clctr	AQD #71 Dst Clctr	AQD #72 Dst Clctr	AQD #74 Dst Clctr	AQD #75 Dst Clctr	AQD #76 Dst Clctr	AQD #77 Dst Clctr	AQD #78 Dst Clctr	AQD #79 Dst Clctr	AQD #81 Dst Clctr	AQD #83 Dst Clctr	AQD #84 Dst Clctr	Plant Total	
Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	1814.41	<== Total VOC's *
																																		HAP's (Method 0030)
Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	53.1900	Benzene
Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	118.5100	1,3 Butadiene
Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	12.1100	Ethylbenzene
Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	38.5400	2-Butanone
Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	32.1500	Hexane
Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	14.3200	Styrene
Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	28.3400	Toluene
Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	54.5000	Xylene
Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	23.3200	** 1,1,1 Trichloroethane
Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	10.7200	** Acrylonitrile
Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	4.0200	** Methylene Chloride
Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	68.3900	** Trichloroethylene
0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	456.2000	<== Subtotal VOC HAP's
																																		HAP's (Method 0010)
Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	0.1340	Acetophenone
Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	0.0490	Biphenyl
Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	0.0034	bis(2-Ethylhexyl)phthalate
Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	0.0031	2-Chloroacetophenone
Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	0.0204	m-, o-, p- Cresols
Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	0.0030	Cumene
Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	0.0417	Dibenzofuran
Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	0.0252	Di-n-butylphthalate
Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	0.0160	N,N-dimethylaniline
Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	0.3232	Naphthalene
Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	0.1983	Phenol
0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.8197	<== Subtotal SVOC HAP's
																																		HAP's (Method 0011)
Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	0.7600	Formaldehyde
Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	2.2800	Acetaldehyde
Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	0.7600	Propionaldehyde
Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	Insignif	3.2600	Acrolein
0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	7.0400	<== Subtotal A & K HAP's
0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	464.0597	<== Total Title III HAP's

* Non methane/non ethane hydrocarbons - Methods 18 & 25A

** These four compounds may have been misidentified during the GC stack tests. The more accurate GC/MS did not identify these compounds.

Insignif = emission rate considered insignificant per testing or process knowledge

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